SOCI 382: SOCIAL STATISTICS
Spring 2015
MWF 1:00-1:50, Sewall Hall 101

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Course Description

This course is intended to provide an introduction to basic statistical techniques used by researchers to investigate social, economic, and political phenomena. The statistical techniques you will learn are really just tools to effectively organize data and present information about the world. For example, researchers have recently employed these statistical techniques to answer the following kinds of questions:

> "How have societal opinions about same-sex marriage changed over time?"
> "Do people who live in impoverished neighborhoods have better or worse health than those who do not?"
> "Are birth defects related to local levels of water pollution?"
> "Are homeowners more attached to their communities than renters?"
> "Does getting a college degree have the same labor market benefits for blacks and whites?"

By the end of this semester, you too will be skilled enough in the art of statistics to address these types of questions. Just as important, however, this course is designed to help you become informed consumers of social statistics. This will involve attaining an awareness of the many uses of statistics in everyday life, gaining the ability to think critically about the use of statistics, and developing the skills necessary to interpret and critique social scientific research employing these techniques.

This course is designed to introduce you to the logic of statistical analysis, not to test your mathematical abilities. A rudimentary familiarity with basic arithmetic and a few algebraic functions will suffice for material presented in the course. This means that, even if you are insecure about your math prowess, this class should not intimidate you. More than anything, success in this course requires diligence. The material covered in the course is very incremental, with the presentation of new material building on what you learn in earlier segments of the course. You will have the greatest chance of success if you attend class regularly, take meticulous notes, keep up on your reading, and make sure to visit office hours to get clarification on issues about which you are unsure.

Required Text

Healey, Joseph. 2012. *Statistics: A Tool for Social Research* (9th Edition). Belmont, CA: Wadsworth.

Suggested Text

Alan Acock. 2012. *A Gentle Introduction to Stata* (Revised 3rd Edition). College Station, TX: Stata Press.

Statistics Blogs

Five Thirty Eight (Nate Silver): http://fivethirtyeight.com/
Family Inequality (Phil Cohen): http://familyinequality.wordpress.com/
Vox (Ezra Klein): http://www.vox.com/
CityLab (The Atlantic): http://www.citylab.com/

Computing

We will be using *Stata 12* statistical software package for in-class demonstrations and homework assignments/problem sets. You should be able to work on your computer assignments using the computer labs on campus. Alternatively, you can obtain a 6-month license of Small Stata for only $35: http://www.stata.com/order/new/edu/gradplans/student-pricing/

A brief note on Stata: Learning a new statistical analysis program and programming language is difficult. I highly recommend that you practice outside of class to hone your skills. Here are some helpful resources to assist you as you learn to use Stata:

UCLA Stata Resources:
http://www.ats.ucla.edu/stat/stata/

Princeton Stata Resources:
http://data.princeton.edu/stata/
http://dss.princeton.edu/training/StataTutorial.pdf
http://dss.princeton.edu/online_help/stats_packages/stata/

You will also need to have a calculator to complete your assignments and exams, and to participate in in-class exercises. A basic and inexpensive calculator that has square-root and squaring functions is best for use in this class. *Make sure to bring your calculator to class everyday.* You are not permitted to use cell phone calculators for exams.

Course Requirements

Exams (60%): There will be three exams (see schedule below for dates) each worth **20%** of your total grade. While not strictly cumulative, each exam will require the use of skills learned earlier in the semester. Each exam will consist of a series of problems sets plus a few multiple-choice and/or short-answer questions. Students are permitted to use a calculator and one hand-written sheet of paper (front and back) with notes and equations. Please note that the exams are **not** open book. I will provide other materials that are allowed during the exams (such as a copy of the standard normal table). Any missed exam will result in a score of 0. Make-up exams will be given *only in the case of a documented emergency*.

Homework/Problem Sets (40%): There are 10 homework assignments this semester. Unless otherwise noted, homework assignments are due at the start of class on the dates listed on the course schedule (usually on Monday). Be sure to staple all pages together (no folded corners). **Assignments must be handed in during class – do not email them to me**. Late assignments (even those assignments handed in on Monday after class) will be graded according to the late assignment policy below. Assignments will be posted on Owl-Space at least one week before the due date.

In addition to problems requiring hand calculations, you will be expected to complete a variety of statistical procedures using Stata as part of every assignment. The output from the Stata procedures exercises must be appended to your written exercises along with your written interpretation of the output.

For both exams and homework assignments, **remember to show your work!** If you write down the answer without showing how you got to that answer, even if that answer is correct, you will not receive full (or perhaps any) credit.

Late Policy: On any late assignment, you will be penalized **10%** for each day late.

Grading: Final grades will be based on the overall percentage breakdown shown below. Please note the following about grades: 1) I do not round grades; 2) **I do not negotiate final grades** unless an error was made. Also note that there are no opportunities for extra credit.

Grade	Percent
A	93-100
A-	90-92.9
B+	87-89.9
B	83-86.9
B-	80-82.9
C+	77-79.9
C	73-76.9
C-	70-72.9
D+	67-69.9
D	63-66.9
D-	60-62.9
F	Below 60

Attendance Policy

While there is no official attendance policy that figures into your final grade, I expect you to attend class regularly. This is crucial for two reasons. First, you are responsible for all information in announcements made during class, including information about exam dates and due dates for homework assignments. Second, and perhaps most important, it will be extremely hard for you to do well in this course without regular attendance since the assignments and exams test your knowledge of materials covered in class. So, if you blow off class on a regular basis it will be tough to catch up and you will likely receive little sympathy from me.

Rice Honor Code

All students are expected to follow the Rice University Honor System (http://honor.rice.edu/). While I encourage you to help out your fellow classmates, you are expected to do your own work. If you are found cheating or committing plagiarism on any assignment or exam, you will receive a score of 0 on that assignment or exam. Cheating and other forms of dishonesty often result when students feel too much pressure to perform and that they do not have the tools to achieve their goals. If you are falling behind or feeling overwhelmed, please come see me BEFORE you decide to cheat.

Disability Support Services

Any student with a disability-related need for modifications or reasonable accommodations in this course must let me know as soon as possible (by the second week of the term) and contact Disability Support Services (http://dss.rice.edu/). It is the student's responsibility to deliver an official accommodation letter from DSS to me. I will keep this information strictly confidential.

Syllabus Change Policy

This syllabus is only a guide for the course and is subject to change with advanced notice.

Tentative Course Schedule

Week	Topic	Required Readings	Assignment Due Dates
1 (1/12-1/16)	Course Introduction and the Research Process	Healey Ch. 1; Wheelan Ch. 1 [OS]	
2 (1/21-1/23)	Working with and Displaying Data	Healey Ch. 2	
3 (1/26-1/30)	Measures of Central Tendency	Healey Ch. 3; Wheelan Ch. 2 [OS]	**HW #1 due 1/26**
4 (2/4-2/9)	Measures of Dispersion	Healey Ch. 4	**HW #2 due 2/2**
5 (2/11-2/16)	The Normal Curve	Healey Ch. 5	**HW #3 due 2/11**
6 (2/18)	Catch up and Exam Review		**HW #4 due 2/18**
Fri 2/20	**EXAM #1**		
7 (2/23-2/27)	Introduction to Sampling and Confidence Intervals	Healey Chs. 6-7	
8 (3/2-3/6)	Spring Break – No Class!		
9 (3/9-3/13)	Hypothesis Testing	Healey Chs. 8-9	**HW #5 due 3/9**
10 (3/16-3/20)	Analysis of Variance	Healey Ch. 10	**HW #6 due 3/16**
11 (3/23-3/27)	Chi-Square	Healey Ch. 11	**HW #7 due 3/23**
12 (3/30)	Catch up and Exam Review		**HW #8 due 3/30**
Wed 4/1	**EXAM #2**		
13 (4/6-4/13)	Bivariate Measures of Association	Healey Chs. 12-14; Wheelan Ch. 11 [OS]	
14 (4/15-4/20)	Multivariate Analysis	Healey Chs. 15-16; Wheelan Ch. 12 [OS]	**HW #9 due 4/15**
15 (4/22-4/24)	Catch up and Exam Review		**HW #10 due 4/22**
Tue 5/5	**EXAM #3**		